

# UNITED STATES PATENT OFFICE.

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## PENCIL-SHARPENER.

SPECIFICATION forming part of Letters Patent No. 304,900, dated September 9, 1884.

Application filed March 31, 1884. (No model.)

*To all whom it may concern:*

Be it known that I, HELEN A. BLANCHARD, a citizen of the United States, and a resident of Boston, Massachusetts, have invented certain improvements in Pencil-Sharpener, of which the following is a specification.

The object of my invention is to construct a simple, cheap, and effective device whereby a point of any desired character may be formed upon a lead-pencil; and this object I attain in the manner hereinafter set forth, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view of my improved pencil-sharpener; Fig. 2, a side view, partly in section; Fig. 3, an end view looking in the direction of the arrow, Fig. 2; Fig. 4, a plan view, partly in section, of a portion of the device; Figs. 5 and 6, diagrams illustrating the action of part of the device, and Fig. 7 a side view illustrating a modification of part of the invention.

A is a frame or standard, to the base of which is secured, by casting or otherwise, a projecting screw-stem, *a*, whereby said standard can be secured to a table, desk, or other convenient support, or a clamp or equivalent fastener may be substituted for the screw, if desired. The standard has at the upper end two arms, *b* and *d*, on the former of which is a bearing, *e*, for a shaft, *f*, having at the outer end a crank, *f'*, and at the inner end a disk, B, and a conical cutter, D, of a construction common in pencil-sharpener, and having an inclined knife, *g*, which, however, is not secured in position in the cutter-casing, but is adapted to a slot, in which it can be adjusted by set-screws *h h* and locked in position by set-screws *i i*; or one adjusting-screw and one locking-screw only may be used, if desired. The cutter D has a threaded tubular stem, *m*, which is adapted to a threaded opening in the end of the shaft *f*, and between the disk B and a shoulder, *n*, on the cutter is secured a disk, F, of sand or emery paper or other abrading material, which may also be cemented to the disk B, if additional security is desired; or the disk B itself may be roughened. The arm *b* is bent out over the disk B at the upper end, and to this portion of the arm is secured a bar, G, in the upper portion of which is formed a conical socket, *p*, the lower end of the bar being bent

so as to overlap the edge of the disk B and serve as a guard, as shown.

To the end of the arm *d* of the standard A is secured a stem, H, the securing-bolt *q* being adapted to a vertical slot, *q'*, in the stem, so as to permit vertical adjustment of the latter, and a lug, *s*, on the arm *d* being adapted to a groove, *t*, in the stem, in order to guide it during its movement and prevent its deflection to one side or the other. The stem has at its upper end a grooved bar, *w*, serving as a rest for the pencil which is being sharpened, and insuring the presentation of the end of the same exactly in the center of the cutter D, the adjustment of the stem H adapting the instrument for the sharpening of pencils of different diameters. The pencil being thus supported, the end of the same is thrust into the cutter and the wooden sheathing of the lead is removed by the knife *g*, so as to reduce said sheathing to a taper corresponding to that of the cutter, the knife being so set, however, that it will not act upon the lead, the latter projecting into or through the hollow stem *m* of the cutter. When the wooden sheathing has been sufficiently removed, the pencil is withdrawn from the cutter and the projecting lead sharpened by subjecting it to the action of the cutting or abrading disk F. During this operation the pencil may be supported by the guard G; or, if a fine point is desired, the end of the pencil is inserted into the conical socket *p*, which serves to direct the lead to the abrading-disk at the proper angle.

By the adjustment of the bar G on the arm *b*, so as to regulate the distance between the socket *p* and disk F, a long or short point may be produced, as shown in Figs. 5 and 6. If a round point is desired, the pencil should be rotated while it is being subjected to the action of the disk F; but if a flat point is to be formed the pencil may be held in one position until the lead is flattened on one side, and then reversed so as to flatten it on the opposite side.

The instrument is preferably provided with a tray, M, for the reception of the shavings and powdered lead resulting from the operations above described, this tray being suspended by hooks *x* from lugs *y* on the arm *b* in such a manner that it can be readily removed when it is desired to empty it.

The above-described instrument can be